

Lampiran 1. Perhitungan formulasi bahan sediaan *Gummy Candy*

a. F0 (Basis *Gummy Candy*)

$$\begin{aligned}\text{Gelatin} &= \frac{10}{100} \times 50 \text{ gr} = 5 \text{ gr} \\ \text{Karagenan} &= \frac{2}{100} \times 50 \text{ gr} = 1 \text{ gr} \\ \text{Madu} &= \frac{20}{100} \times 50 \text{ gr} = 10 \text{ gr} \\ \text{Sodium propionate} &= \frac{0,15}{100} \times 50 \text{ gr} = 0,075 \text{ gr} \\ \text{Sari jeruk} &= 50 - (5 + 1 + 10 + 0,075) \\ &= 33,925 \text{ ml}\end{aligned}$$

b. F1 konsentrasi 0,5%

$$\begin{aligned}\text{Substans biji labu kuning} &= \frac{0,5}{100} \times 50 \text{ gr} = 0,25 \text{ gr} = 250 \text{ mg} \\ \text{Gelatin} &= \frac{10}{100} \times 50 \text{ gr} = 5 \text{ gr} \\ \text{Karagenan} &= \frac{2}{100} \times 50 \text{ gr} = 1 \text{ gr} \\ \text{Madu} &= \frac{20}{100} \times 50 \text{ gr} = 10 \text{ gr} \\ \text{Sodium propionate} &= \frac{0,15}{100} \times 50 \text{ gr} = 0,075 \text{ gr} \\ \text{Sari jeruk} &= 50 - (0,25 + 5 + 1 + 10 + 0,075) \\ &= 33,675 \text{ ml}\end{aligned}$$

c. F2 konsentrasi 1%

$$\begin{aligned}\text{Substans biji labu kuning} &= \frac{1}{100} \times 50 \text{ gr} = 0,5 \text{ gr} = 500 \text{ mg} \\ \text{Gelatin} &= \frac{10}{100} \times 50 \text{ gr} = 5 \text{ gr} \\ \text{Karagenan} &= \frac{2}{100} \times 50 \text{ gr} = 1 \text{ gr} \\ \text{Madu} &= \frac{20}{100} \times 50 \text{ gr} = 10 \text{ gr} \\ \text{Sodium propionate} &= \frac{0,15}{100} \times 50 \text{ gr} = 0,075 \text{ gr} \\ \text{Sari jeruk} &= 50 - (0,5 + 5 + 1 + 10 + 0,075) \\ &= 33,425 \text{ ml}\end{aligned}$$

d. F3 konstrasi 1,5%

$$\text{Substans biji labu kuning} = \frac{1,5}{100} \times 50 \text{ gr} = 0,75 \text{ gr} = 750 \text{ mg}$$

$$\text{Gelatin} = \frac{10}{100} \times 50 \text{ gr} = 5 \text{ gr}$$

$$\text{Karagenan} = \frac{2}{100} \times 50 \text{ gr} = 1 \text{ gr}$$

$$\text{Madu} = \frac{20}{100} \times 50 \text{ gr} = 10 \text{ gr}$$

$$\text{Sodium propionate} = \frac{0,15}{100} \times 50 \text{ gr} = 0,075 \text{ gr}$$

$$\begin{aligned} \text{Sari jeruk} &= 50 - (0,75 + 5 + 1 + 10 + 0,075) \\ &= 33,175 \text{ ml} \end{aligned}$$

Lampiran 2. Hasil perhitungan uji keseragaman bobot

<i>Gummy Candy</i>	Bobot (g)
1	2,17
2	2,17
3	2,18
4	2,16
5	2,14
6	2,1
7	2,18
8	2,16
9	2,13
10	2,16
11	2,16
12	2,14
13	2,12
14	2,16
15	2,11
16	2,08
17	2,08

18	2,13
19	2,07
20	2,07
Rata-rata (x)	2,13

$$\text{a. A 5\%} = \frac{5}{100} \times 2,13$$

$$= 0,1065 \text{ g}$$

$$\text{Batas atas} = 2,13 + 0,1065$$

$$= 2,23 \text{ g}$$

$$\text{Batas bawah} = 2,13 - 0,1065$$

$$= 2,03 \text{ g}$$

$$\text{b. B 10\%} = \frac{10}{100} \times 2,13$$

$$= 0,213 \text{ g}$$

$$\text{Batas atas} = 2,13 + 0,213$$

$$= 2,34 \text{ g}$$

$$\text{Batas bawah} = 2,13 - 0,213$$

$$= 1,92 \text{ g}$$

$$SD = \sqrt{\frac{1}{n} \sum ((2,17 - 2,13)^2 + (2,17 - 2,13)^2 + (2,18 - 2,13)^2 + (2,16 - 2,13)^2 + (2,14 - 2,13)^2 + (2,1 - 2,13)^2 + (2,18 - 2,13)^2 + (2,16 - 2,13)^2 + (2,13 - 2,13)^2 + (2,16 - 2,13)^2 + (2,16 - 2,13)^2 + (2,14 - 2,13)^2 + (2,12 - 2,13)^2 + (2,16 - 2,13)^2 + (2,11 - 2,13)^2 + (2,08 - 2,13)^2 + (2,08 - 2,13)^2 + (2,13 - 2,13)^2 + (2,07 - 2,13)^2 + (2,07 - 2,13)^2) }$$

$$SD = \sqrt{\frac{1}{20} \times 0,0265} = 0,001325$$

$$= \sqrt{0,001325} = 0,0364$$

$$CV = \frac{0,0364}{2,13} \times 100\%$$

$$= 2 \%$$

Lampiran 3. Hasil perhitungan konsentrasi zink dalam sediaan *Gummy Candy* dengan persamaan linear

a. F1 (0,0243)

$$\begin{aligned} Y &= 0,019x + 0,004 = 0,0243 \\ &= \frac{0,0243 - 0,0004}{0,019} \\ \text{ppm} &= 1,25 \\ &= 1,25 \times 0,1 = 0,125 \\ &= \frac{0,125}{50} \times 100 \\ &= 0,25\% \end{aligned}$$

Kadar zink dalam satu *Gummy Candy* (2 mg) = $0,125 \times 40 = 5$ mg zink

b. F2 (0,0323)

$$\begin{aligned} Y &= 0,019x + 0,004 = 0,032 \\ &= \frac{0,032 - 0,004}{0,019} \\ \text{ppm} &= 1,473 \\ &= 1,473 \times 0,1 = 0,147 \\ &= \frac{0,167}{50} \times 100 \\ &= 0,322\% \end{aligned}$$

Kadar zink dalam satu *Gummy Candy* (2 mg) = $0,147 \times 40 = 5,88$ mg zink

c. F3 (0,033)

$$\begin{aligned} Y &= 0,019x + 0,004 = 0,033 \\ &= \frac{0,033 - 0,004}{0,019} \\ \text{ppm} &= 1,526 \\ &= 1,526 \times 0,1 = 0,152 \\ &= \frac{0,167}{50} \times 100 \\ &= 0,322\% \end{aligned}$$

Kadar zink dalam satu *Gummy Candy* (2 mg) = $0,152 \times 40 = 5,88$ mg zink

Lampiran 4. Perhitungan pemberian dosis ke hewan coba mencit

a. Kelompok K⁺ (zink sulfat) 5 mg/berat badan mencit

$$\begin{aligned}\text{Zink} &= 5 \text{ mg} \\ \text{Berat mencit (*Mus musculus*)} &= 25 \text{ g} \\ \text{Untuk mencit (*Mus musculus*)20 gr} &= 5 \text{ mg} \times 0,0026 \\ &= 0,013 \text{ mg/ml} \\ \text{Untuk mencit (*Mus musculus*)30 gr} &= \frac{30 \text{ gr}}{20 \text{ gr}} \times 0,013 \text{ mg/ml} \\ &= 0,0195 \\ \text{Larutan stok} &= \frac{10}{1} \times 0,0195 \\ &= 0,195 \\ \text{Berat yang ditimbang} &= \frac{0,195}{5} \times 1 \text{ gr} \\ &= 0,039 \\ \text{Volume pemberian} &= \frac{25}{30} \times 0,195 \\ &= 0,1625\end{aligned}$$

b. Kelompok F1 5 mg/berat badan mencit

$$\begin{aligned}\text{Zink} &= 5 \text{ mg} \\ \text{Berat mencit (*Mus musculus*)} &= 25 \text{ g} \\ \text{Untuk mencit (*Mus musculus*)20 gr} &= 5 \text{ mg} \times 0,0026 \\ &= 0,013 \text{ mg/ml} \\ \text{Untuk mencit (*Mus musculus*)30 gr} &= \frac{30 \text{ gr}}{20 \text{ gr}} \times 0,013 \frac{\text{mg}}{\text{ml}} \\ &= 0,0195 \\ \text{Larutan stok} &= \frac{10}{1} \times 0,0195 \\ &= 0,195 \\ \text{Berat yang ditimbang} &= \frac{0,195}{5} \times 1 \text{ gr} \\ &= 0,039 \\ \text{Volume pemberian} &= \frac{25}{30} \times 0,195 \\ &= 0,1625\end{aligned}$$

c. Kelompok F2 5,88 mg/berat badan mencit

$$\begin{aligned}\text{Zink} &= 5,88 \text{ mg} \\ \text{Berat mencit (Mus musculus)} &= 23 \text{ g} \\ \text{Untuk mencit (Mus musculus) 20 gr} &= 5,88 \text{ mg} \times 0,0026 \\ &= 0,015 \text{ mg/ml} \\ \text{Untuk mencit (Mus musculus) 30 gr} &= \frac{30 \text{ gr}}{20 \text{ gr}} \times 0,015 \text{ mg/ml} \\ &= 0,0225 \\ \text{Larutan stok} &= \frac{10}{1} \times 0,0225 \\ &= 0,225 \\ \text{Berat yang ditimbang} &= \frac{0,225}{5,88} \times 1 \text{ gr} \\ &= 0,038 \\ \text{Volume pemberian} &= \frac{23}{30} \times 0,225 \\ &= 0,1725\end{aligned}$$

d. Kelompok F3 6,08 mg/berat badan mencit

$$\begin{aligned}\text{Zink} &= 6,08 \text{ mg} \\ \text{Berat mencit (Mus musculus)} &= 23 \text{ g} \\ \text{Untuk mencit (Mus musculus) 20 gr} &= 6,08 \text{ mg} \times 0,0026 \\ &= 0,015 \text{ mg/ml} \\ \text{Untuk mencit (Mus musculus) 30 gr} &= \frac{30 \text{ gr}}{20 \text{ gr}} \times 0,015 \text{ mg/ml} \\ &= 0,0225 \\ \text{Larutan stok} &= \frac{10}{1} \times 0,0225 \\ &= 0,225 \\ \text{Berat yang ditimbang} &= \frac{0,225}{6,08} \times 1 \text{ gr} \\ &= 0,037 \\ \text{Volume pemberian} &= \frac{23}{30} \times 0,225 \\ &= 0,1725\end{aligned}$$

Lampiran 5. Dokumentasi preprasi Biji Labu Kuning (*Cucurbita moscata*)

No	Gambar	Penimbangan
1.		Pengumpulan biji labu kuning (<i>Cucurbita moscata</i>)
2.		Pembersihan serta Perendaman biji labu kuning (<i>Cucurbita moscata</i>) selama 12 jam.
3.		Perebusan biji labu kuning (<i>Cucurbita moscata</i>) selama 10 menit
4.		Penjemuran biji labu kuning (<i>Cucurbita moscata</i>)

5.		Penghalusan biji labu kuning (<i>Cucurbita moscata</i>)
6.		Pentanuran serbuk biji labu kuning (<i>Cucurbita moscata</i>) selama 4 jam

Lampiran 6. Dokumentasi pengujian organoleptis sediaan *Gummy Candy* biji labu kuning (*Cucurbita moscata*)

F0 	F1 
F2 	F3 

**Lampiran 7. Dokumentasi pengujian pH *Gummy Candy* biji labu kuning
(*Cucurbita moscata*)**

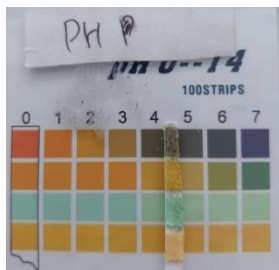
F3



F3



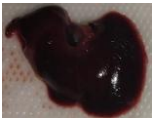
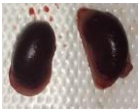
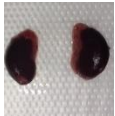
F3

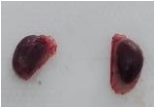
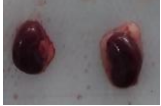
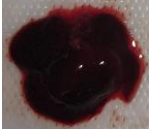
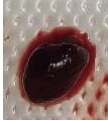
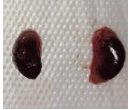
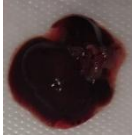
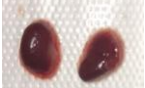
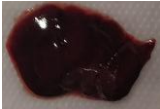


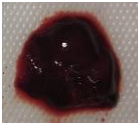
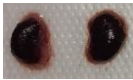
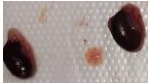
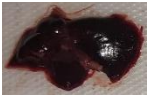
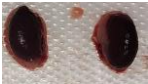
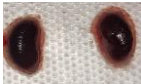
Lampiran 8. Dokumentasi pengujian keseragaman bobot *Gummy Candy* biji labu kuning (*Cucurbita moscata*)

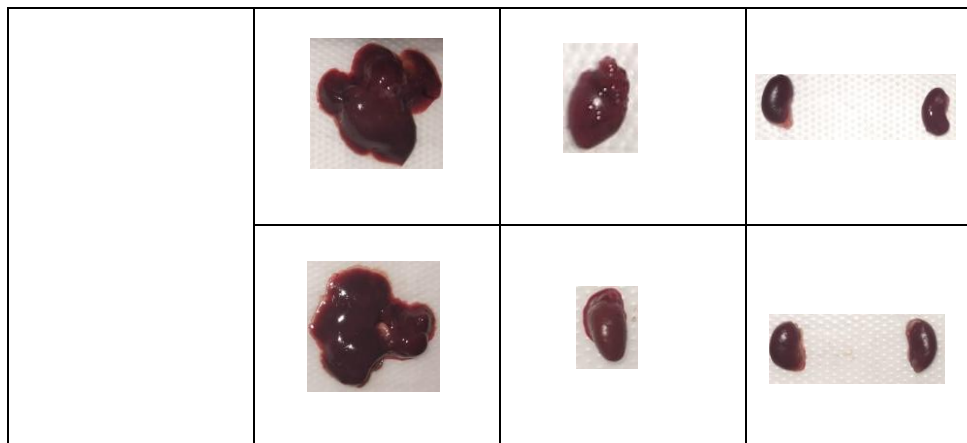
				
				
				
				

Lampiran 9. Dokumentasi pengujian toksis perubuhan warna organ hewan coba mencit (*Mus musculus*)Gummy Candy biji labu kuning (*Cucurbita moscata*)

Sampel	Hati	Jantung	Ginjal
K+			
			
			
			
K-			
			

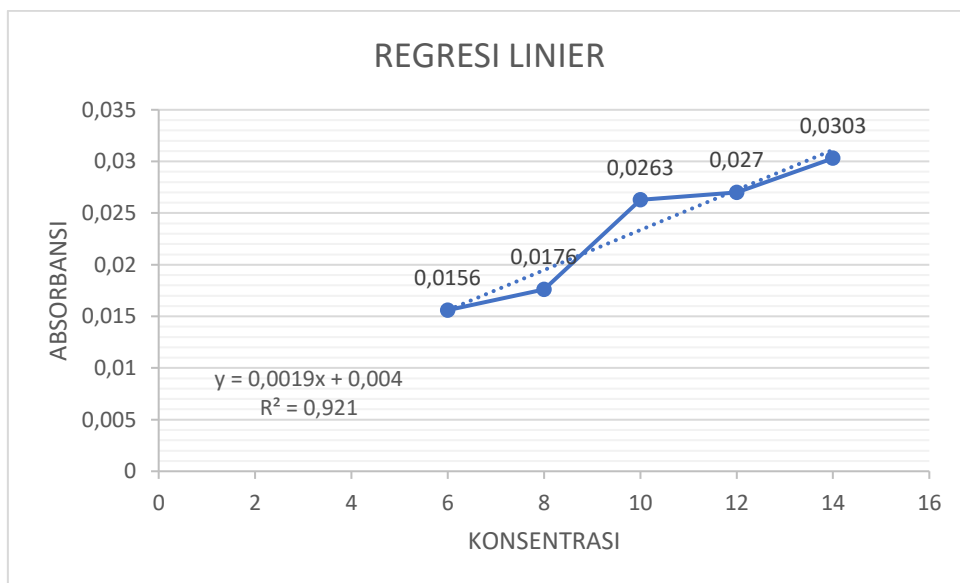
			
			
F0			
			
			
			
			
F1			

			
			
F2			
			
			
			
F3			
			

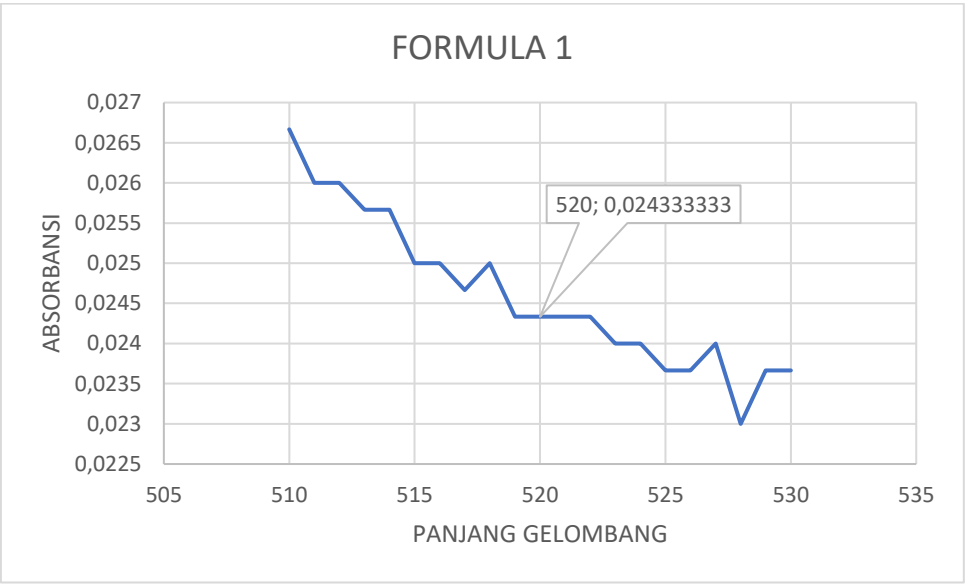


Lampiran 9. Dokumentasi pengujian kadar zink dengan Spektrofotometri UV
Vis sediaan Gummy Candy biji labu kuning (*Cucurbita moscata*)

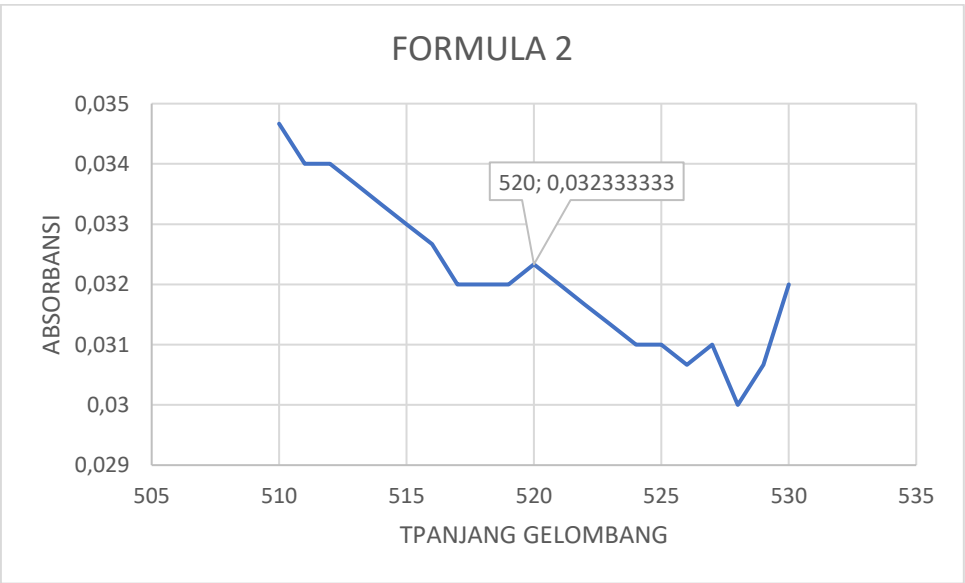
REGRESI LINIER ZING SULFAT



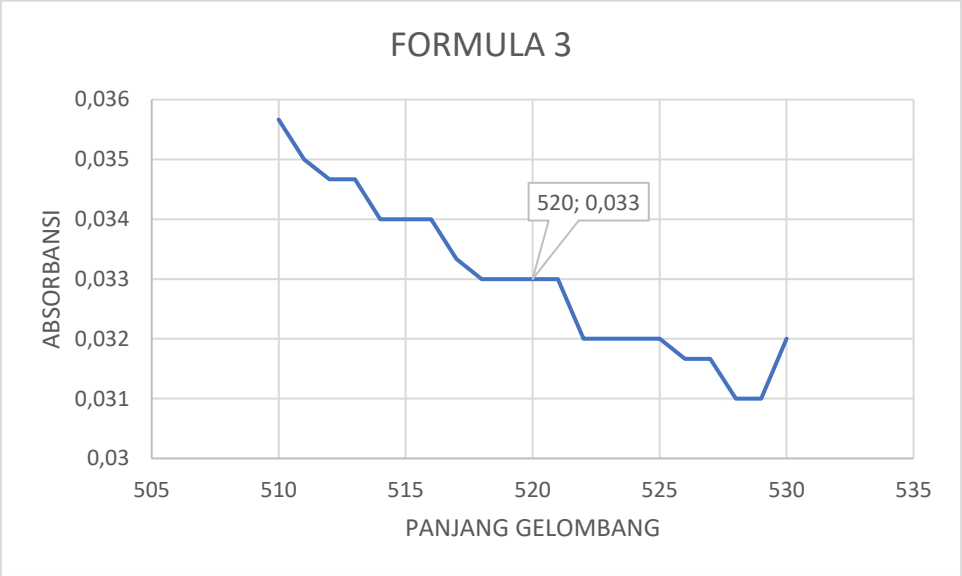
FORMULA 1



FORMULA 2



FORMULA 3



Lampiran 10. Dokumentasi lembar konsul

Lembar konsul pembimbing 1



LEMBAR BIMBINGAN TUGAS AKHIR, PROPOSAL, SKRIPSI DAN TESIS
PROGRAM STUDI FARMASI
FAKULTAS ILMU KESEHATAN
UNIVERSITAS MUHAMMADIYAH PALOPO

NAMA MAHASISWA : Asmla
NIM : 211320038
JUDUL : INOVASI GUMMY CANDY BIJI LABU KUNING (Cucurbita
moscata) SEBAGAI ALTERNATIF SUPLEMENTASI ZINK
BAGI ANAK STUNTING
PEMBIMBING 1 : apt. Chitra Astari, S. Farm., M.Si
PEMBIMBING 2 : apt. Al-Syahril Samisi, S. Farm., M.Si

No	Materi Konsultasi	Tanggal	TTD Pembimbing
1	Bab II, Bab III	02/08/24	Chitra
2	Formula Sediaan	08/08/24	Chitra
3	ACC Proposal	12/08/24	Chitra
4	Konsultasi Judul Baru	09/08/24	Chitra
5	Formula baru	20/08/24	Chitra
6	uji Sediaan	11/09/24	Chitra
7	Sediaan	18/09/24	Chitra
8	Revisi	04/10/25	Chitra
9	Revisi	10/10/25	Chitra
10	Revisi	13/10/25	Chitra
11	Revisi	17/10/25	Chitra
12	ACC Skripsi	18/10/25	Chitra

- Para mahasiswa yang mengambil TA dimohon dengan sangat agar memenuhi jumlah pembimbingan minimal 12 kali mulai proposal sampai dengan skripsi yang ditandatangani oleh pembimbing setiap kali melakukan tatap muka
- Lembar bimbingan TA ini harap dikumpulkan ke prodi saat mendaftarkan ujian skripsi

Lembar konsul Pembimbing 2



LEMBAR BIMBINGAN TUGAS AKHIR, PROPOSAL, SKRIPSI DAN TESIS
PROGRAM STUDI FARMASI
FAKULTAS ILMU KESEHATAN
UNIVERSITAS MUHAMMADIYAH PALOPO

NAMA MAHASISWA : Asmika
NIM : 211820038
JUDUL : Inovasi Gummy Candy Biji Labu Kuning (Cucurbita moscata) sebagai Alternatif Suplementasi Pada Anak Shunting
PEMBIMBING 1 : apt. Chitra Astari, S.Farm., M.Si
PEMBIMBING 2 : apt. Al-Syahril Samisi, S.Farm., M.Si

No	Materi Konsultasi	Tanggal	TTD Pembimbing
1	Teori, uji Sediaan	05/08/24	+
2	Formula	12/08/24	+
3	Formula	14/08/24	+
4	ACC Proposal	15/08/24	+
5	Formula baru	20/08/24	+
6	Uji Sediaan	11/09/24	+
7	Sediaan	18/09/24	+
8	Revisi	6/01/25	+
9	Revisi	9/01/25	+
10	Revisi	13/01/25	+
11	Revisi	14/01/25	+
12	ACC skripsi	17/01/25	+

- Para mahasiswa yang mengambil TA dimohon dengan sangat agar memenuhi jumlah pembimbingan minimal 12 kali mulai proposal sampai dengan skripsi yang ditandatangani oleh pembimbing setiap kali melakukan tatap muka
- Lembar bimbingan TA ini harap dikumpulkan ke prodi saat mendaftarkan ujian skripsi